endocrinologia, diabetes e nutrição
Centro Hospitalar do Baixo Vouga

DIABETES

PREVENÇÃO, FATORES DE RISCO E TRATAMENTO

Joana Guimarães

Assistente Hospitalar de Endocrinologia
Serviço de Endocrinologia, Diabetes e Nutrição
Centro Hospitalar do Baixo Vouga

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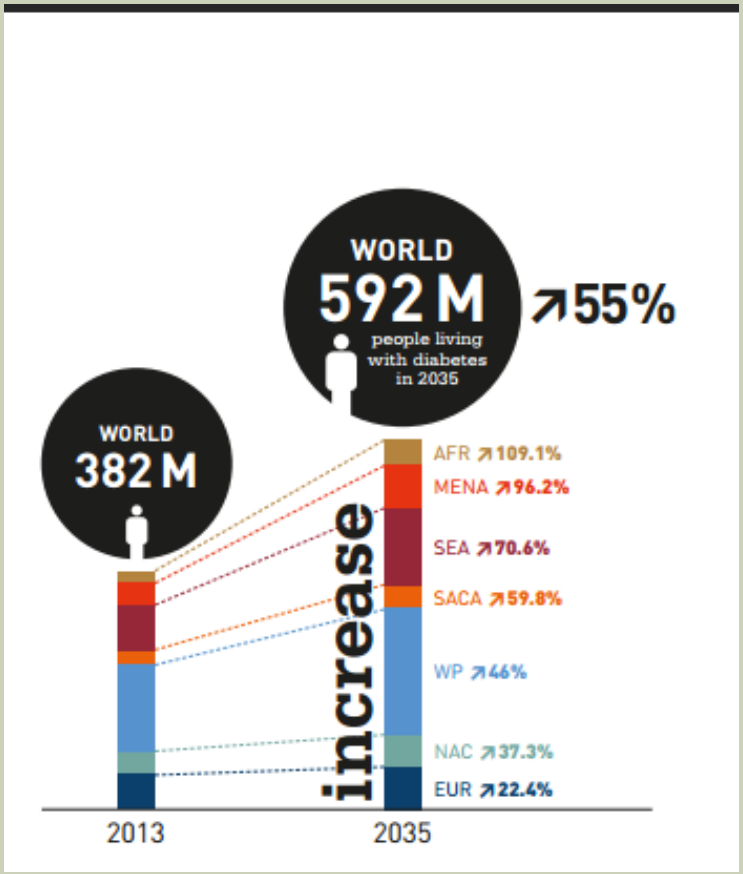
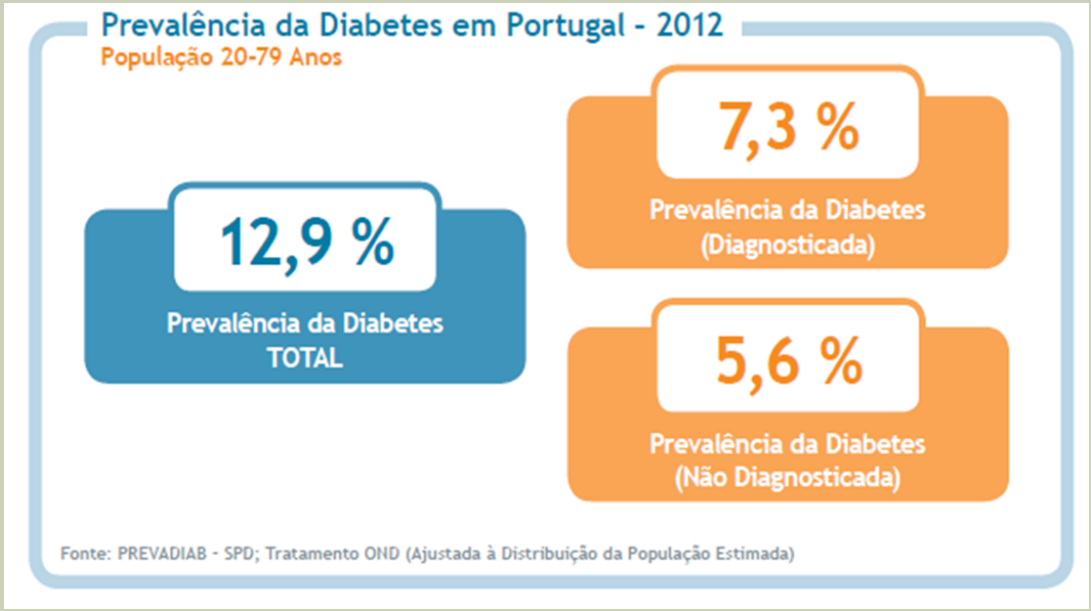
idoso
8º CONGRESSO
NACIONAL
26|27|Junho|2014
Centro de Congressos de Lisboa

PREVALÊNCIA





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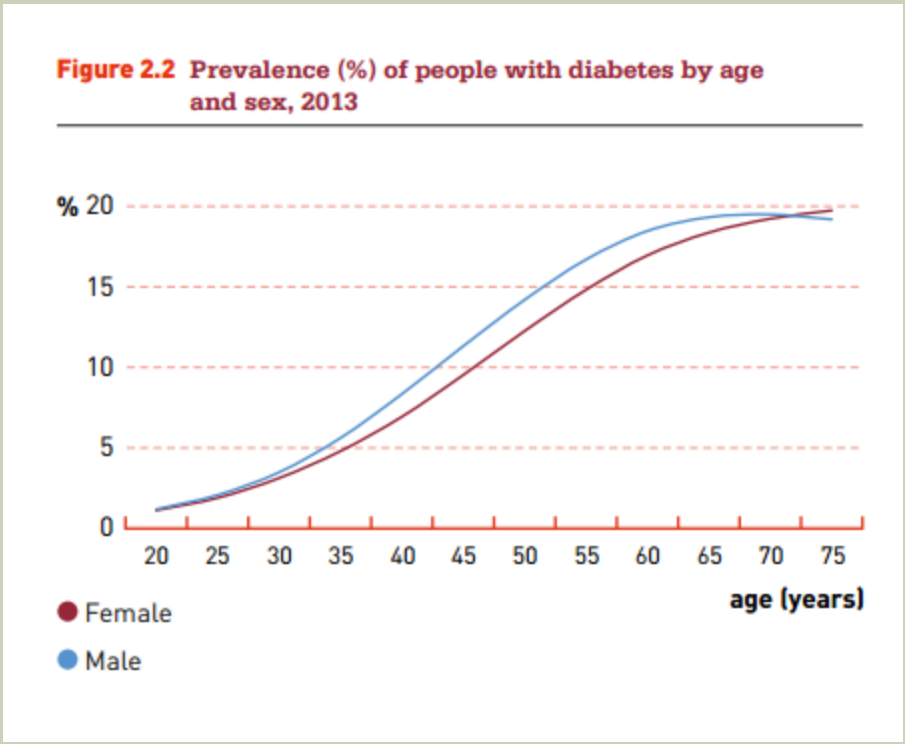

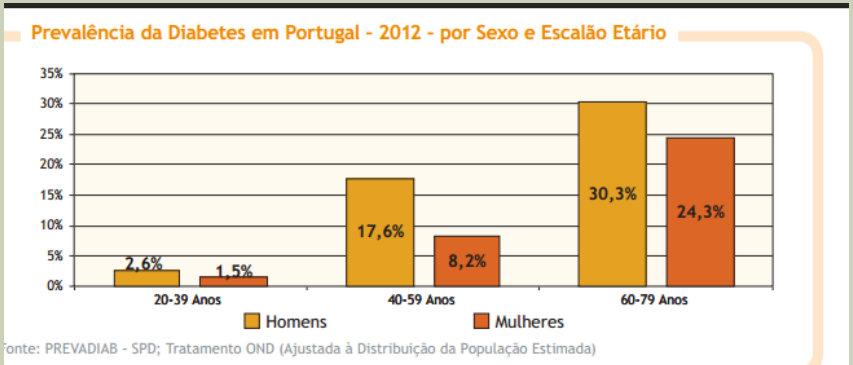

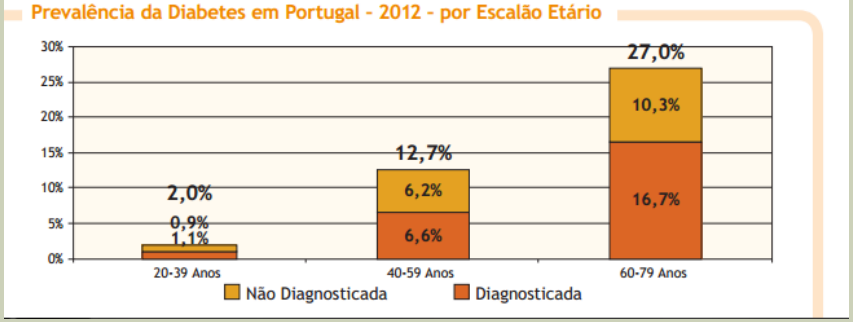

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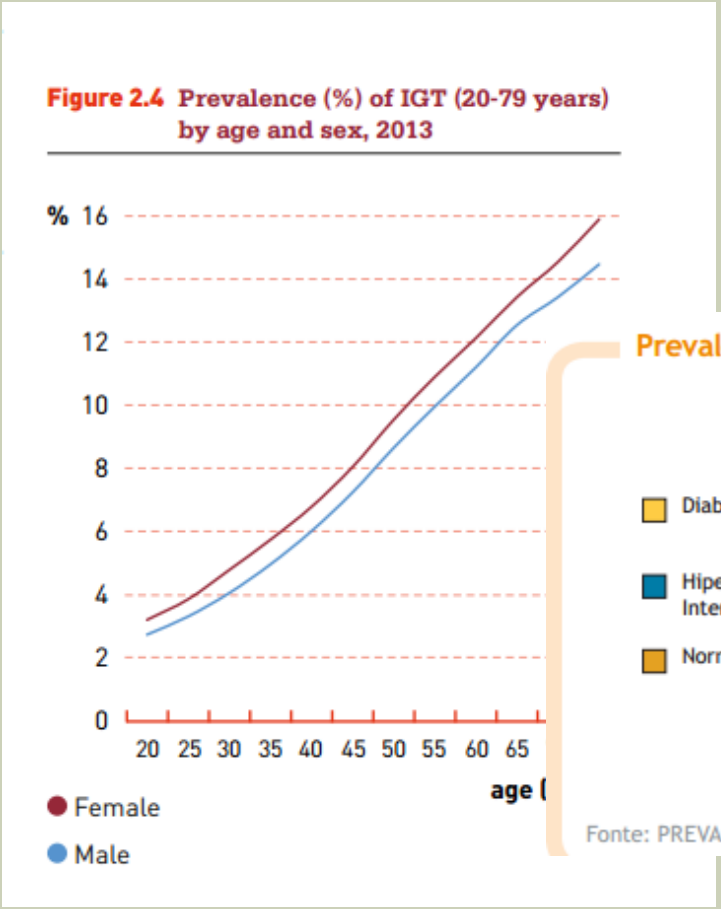
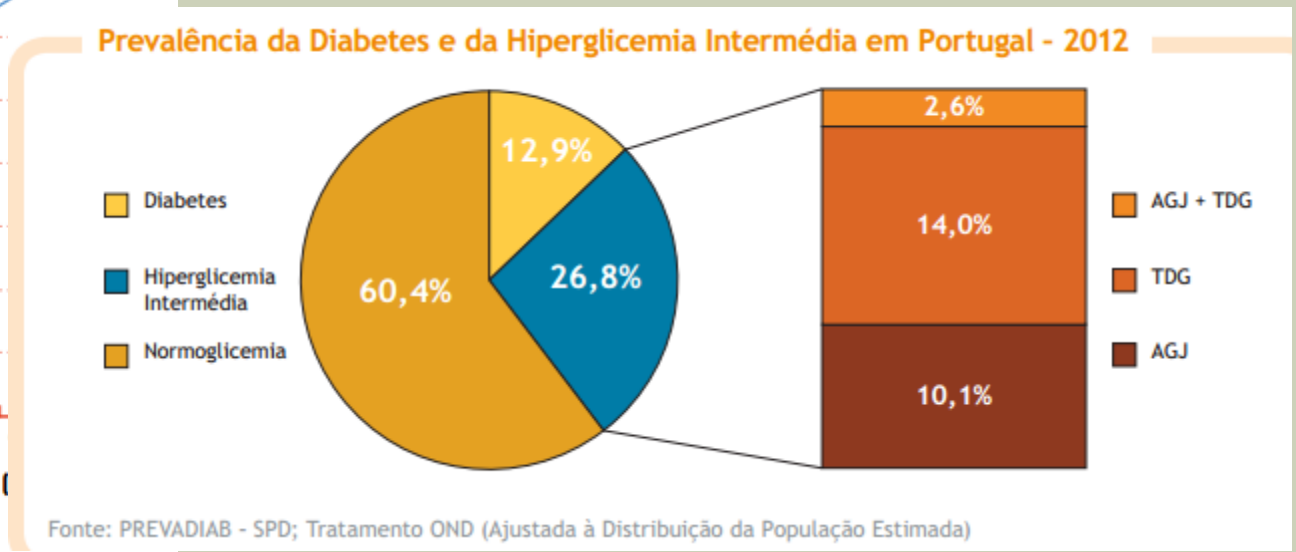
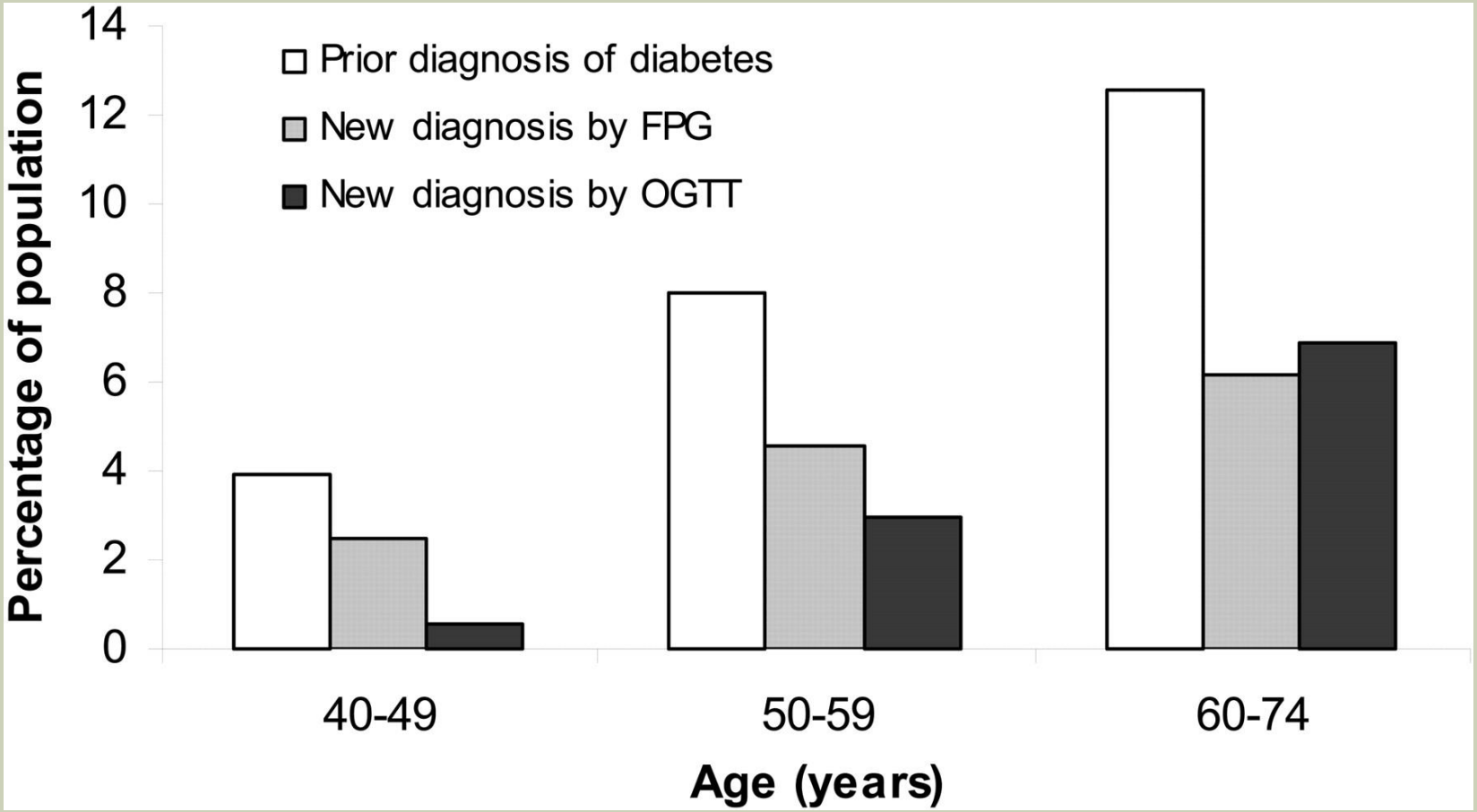




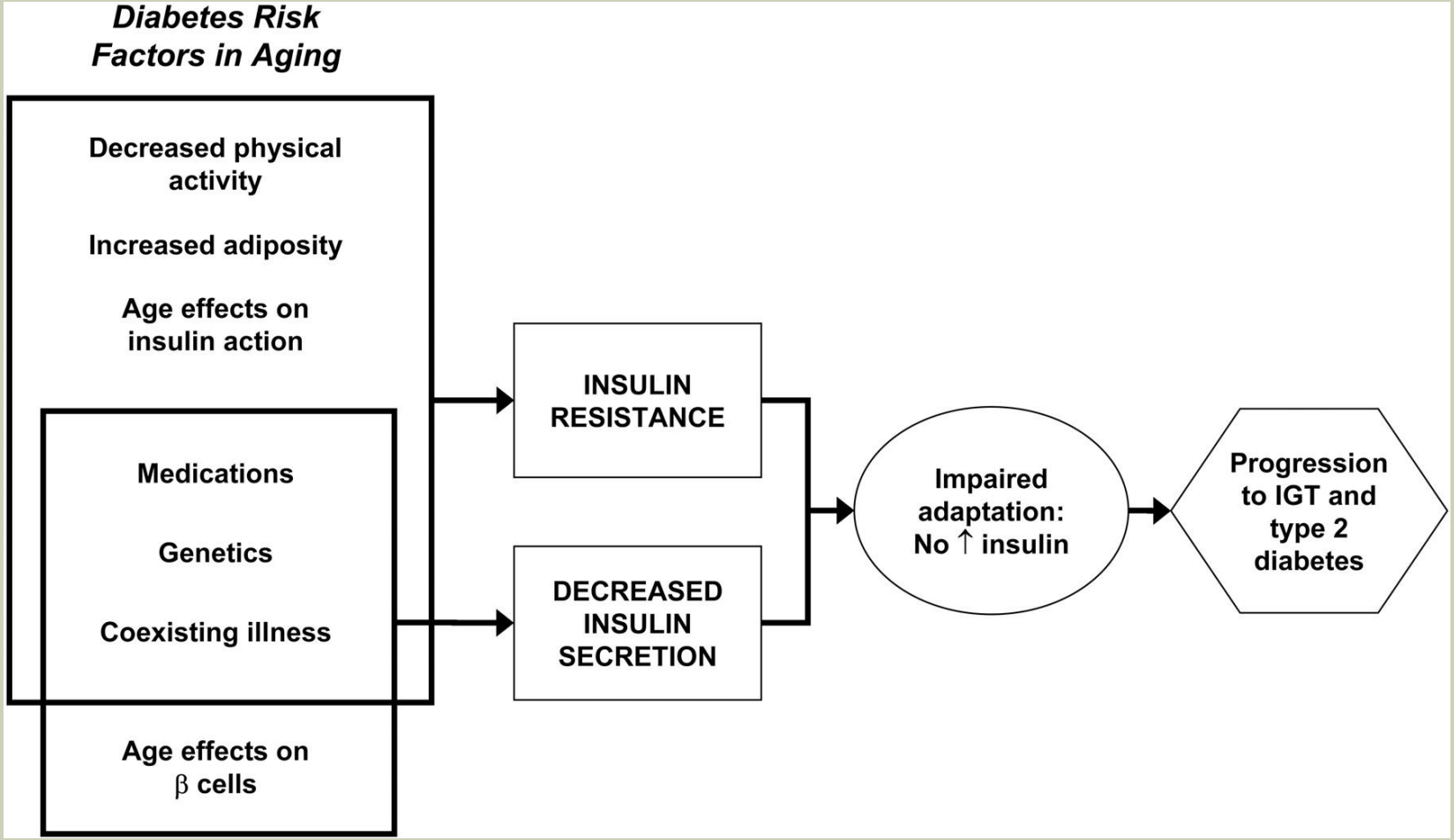
Prevalence of type 2 diabetes by age from the Third National Health and Nutrition Examination Survey (NHANES III).



Chang A M , and Halter J B Am J Physiol Endocrinol Metab 2003;284:E7-E12

AMERICAN JOURNAL OF PHYSIOLOGY
Endocrinology and Metabolism

Model for age-related hyperglycemia.



Chang A M , and Halter J B Am J Physiol Endocrinol Metab 2003;284:E7-E12

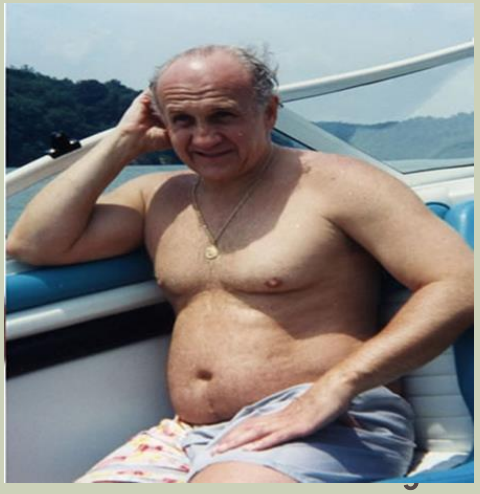
AMERICAN JOURNAL OF PHYSIOLOGY
Endocrinology and Metabolism

HETEROGENEIDADE









GUIDELINES

- California healthcare Foudation/American Geriatrics Society, 2003
- U.S: Department of Veterans affairs and the U.S Department of Defense diabetes guidelines, 2010
- European diabetes Working party for Older People, 2011
- Diabetes mellitus in Older People: Position Statement on behalf of the International association of Gerontology and Geriatrics (IAGG), the European Diabetes Working Party for Older People (EDWPOP), and the International Task Force of Experts in Diabetes, 2012
- American Geriatrics Society Guidelines for Improving the Care of the Older Adult with diabetes mellitus: 2013 Update
- IDF, Management older people with diabetes type 2, 2013

INTERNATIONAL DIABETES FEDERATION

MANAGING OLDER PEOPLE WITH TYPE 2 DIABETES

GLOBAL GUIDELINE

CATEGORIAS

1. **Funcionalmente independentes**: vivem de forma independente, sem limitações na vida diária e sem apoio de terceiros; não exclui comorbilidades

2. **Funcionalmente dependentes**

A: Fragilidade: cansaço, perda de peso recente, restrição severa na mobilidade e força, propensão para quedas, risco acrescido de institucionalização (25%)

B: Demência

3. **Fim de vida**: esperança de vida < 1ano

Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail.**

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

DALHOUSIE UNIVERSITY

ORIGINAL INVESTIGATION

Lifestyle Risk Factors and New-Onset Diabetes Mellitus in Older Adults

The Cardiovascular Health Study

Dariush Mozaffarian, MD, DrPH; Aruna Kamineni, MPH; Mercedes Carnethon, PhD; Luc Djoussé, MD,

FACTORES DE RISCO

Table 2. Individual Lifestyle Risk Factors and Risk of Incident Diabetes Mellitus

Lifestyle Risk Factor	% of 4883 Participants	Person-Years of Follow-up	Diabetes Mellitus, No. of Cases	Hazard Ratio (95% Confidence Interval)[a]	
				Multivariable Model	Multivariable + Lifestyle Model
Physical activity score[b]					
<Median	56.9	19 643	227	1 [Reference]	1 [Reference]
≥Median	43.1	14 896	110	0.63 (0.50-0.80)	0.74 (0.58-0.93)
Dietary score[c]					
Lower 3 quintiles	54.7	18 918	232	1 [Reference]	1 [Reference]
Upper 2 quintiles	45.3	15 621	105	0.64 (0.50-0.81)	0.69 (0.54-0.87)
Smoking habits					
Never	46.7	16 139	135	0.83 (0.66-1.04)	0.77 (0.61-0.97)
Former or current	53.3	18 400	202	1 [Reference]	1 [Reference]
Alcohol use					
No	52.4	18 133	217	1 [Reference]	1 [Reference]
Yes[d]	47.6	16 406	120	0.66 (0.52-0.84)	0.66 (0.52-0.84)
Body mass index[e]					
<25	40.2	13 873	64	0.38 (0.29-0.51)	0.55 (0.40-0.77)
≥25	59.8	20 666	273	1 [Reference]	1 [Reference]
Waist circumference, cm					
<88 for women and <92 for men	35.4	12 200	51	0.36 (0.27-0.48)	0.54 (0.38-0.77)
≥88 for women and ≥92 for men	64.6	22 339	286	1 [Reference]	1 [Reference]

[a] Multivariable model adjusted for age (years), sex (male vs female), race (white vs nonwhite), educational level (<high school, high school, and >high school), and annual income (<$25 000, $25 000-$49 999, and ≥$50 000). Multivariable + lifestyle model simultaneously adjusted for each of the other lifestyle risk factors in the table.

[b] Combining leisure-time activity (quintiles) and pace of walking (3 categories).

[c] Upper 2 quintiles to be consistent with previous studies reporting a dietary score combining intake of dietary fiber, glycemic index, and *trans* fats and polyunsaturated:saturated fat ratio, each in quintiles.

[d] Most (94.1%) consumed 2 or fewer drinks per day.

Arch Intern Med 2009

PREVENÇÃO

- DPP – Diabetes prevention program
- 20% dos doentes com > 60 anos
- Alteração do estilo de vida e metformina reduziram inidência de diabetes em 58% e 31%, respetivamente
- Nos mais idosos, a redução da incidência foi de 71% com a alteração estilo de vida e 11% com a metformina
- 10 anos depois, os idosos submetidos a alteração estilo de vida, mantinham os benefícios (49% de redução do risco vs 34% no total)
- Limitação: poucos indivíduos com > 70 anos ou com limitação funcional/cognitiva

Diabetes Prevention program research Group. N Engl J Med, 2002. Knowler WC, et al. Lancet 2009.

When Thinner Means Sicker
and Heavier Means Healthier

The
OBESITY PARADOX

CARL J. LAVIE, MD
with Kristin Loberg

SCRIBE

Association of Weight Status With Mortality in Adults With Incident Diabetes

Mercedes R. Carnethon, PhD
Peter John D. De Chavez, MS
Mary L. Biggs, PhD
Cora E. Lewis, MD
James S. Pankow, PhD
Alain G. Bertoni, MD, MS
Sherita H. Golden, MD, MS
Kiang Liu, PhD
Kenneth J. Mukamal, MD, MPH
Brenda Campbell-Jenkins, PhD
Alan R. Dyer, PhD

Context Type 2 diabetes in normal-weight adults (body mass index [BMI] <25) is a representation of the metabolically obese normal-weight phenotype with unknown mortality consequences.

Objective To test the association of weight status with mortality in adults with new-onset diabetes in order to minimize the influence of diabetes duration and voluntary weight loss on mortality.

Design, Setting, and Participants Pooled analysis of 5 longitudinal cohort studies: Atherosclerosis Risk in Communities study, 1990-2006; Cardiovascular Health Study, 1992-2008; Coronary Artery Risk Development in Young Adults, 1987-2011; Framingham Offspring Study, 1979-2007; and Multi-Ethnic Study of Atherosclerosis, 2002-2011. A total of 2625 participants with incident diabetes contributed 27 125 person-years of follow-up. Included were men and women (age >40 years) who developed incident diabetes based on fasting glucose 126 mg/dL or greater or newly initiated diabetes medication and who had concurrent measurements of BMI. Participants were classified as normal weight if their BMI was 18.5 to 24.99 or overweight/obese if BMI was 25 or greater.

Main Outcome Measures Total, cardiovascular, and noncardiovascular mortality.

Results The proportion of adults who were normal weight at the time of incident diabetes ranged from 9% to 21% (overall 12%). During follow-up, 449 participants died: 178 from cardiovascular causes and 253 from noncardiovascular causes (18 were not classified). The rates of total, cardiovascular, and noncardiovascular mortality were higher in normal-weight participants (284.8, 99.8, and 198.1 per 10 000 person-years, respectively) than in overweight/obese participants (152.1, 67.8, and 87.9 per 10 000 person-years, respectively). After adjustment for demographic characteristics and blood pressure, lipid levels, waist circumference, and smoking status, hazard ratios comparing normal-weight participants with overweight/obese participants for total, cardiovascular, and noncardiovascular mortality were 2.08 (95% CI, 1.52-2.85), 1.52 (95% CI, 0.89-2.58), and 2.32 (95% CI, 1.55-3.48), respectively.

Conclusion Adults who were normal weight at the time of incident diabetes had higher mortality than adults who are overweight or obese.

JAMA. 2012;308(6):581-590 www.jama.com

TYPE 2 DIABETES IN NORMAL-weight adults is an understudied representation of the metabolically obese normal-weight phenotype[1] that has become increasingly common over time.[2] It is not known whether the "obesity paradox" that has been observed in chronic diseases such as heart failure, chronic kidney disease, and hypertension extends to adults who are normal weight at the time of incident diabetes.[3-5] In 2 contemporary studies, the Translating Research Into Action for Diabetes (TRIAD) study[6] and the PROactive trial,[7] participants with diabetes who

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Body-Mass Index and Mortality among 1.46 Million White Adults

Amy Berrington de Gonzalez, D.Phil., Patricia Hartge, Sc.D., James R. Cerhan, Ph.D., Alan J. Flint, Dr.P.H., Lindsay Hannan, M.S.P.H Robert J. MacInnis, Ph.D., Steven C. Moore, Ph.D., Geoffrey S. Tobias, B. Hoda Anton-Culver, Ph.D., Laura Beane Freeman, Ph.D., W. Lawrence Beeson, Dr.P.H., Sandra L. Clipp, M.P.H., Dallas R. English, P Aaron R. Folsom, M.D., D. Michal Freedman, Ph.D., Graham Giles, Ph.D Niclas Hakansson, Ph.D., Katherine D. Henderson, Ph.D., Judith Hoffman-Bolton, Jane A. Hoppin, Sc.D., Karen L. Koenig, Ph.D., I-Min Lee, Sc.D., Martha S. Linet, M.D., Yikyung Park, Sc.D., Gaia Pocobelli, Arthur Schatzkin, M.D., Howard D. Sesso, Sc.D., Elisabete Weiderpass, Ph Bradley J. Willcox, M.D., Alicja Wolk, Dr.Med.Sci., Anne Zeleniuch-Jacquotte, Walter C. Willett, M.D., Dr.P.H., and Michael J. Thun, M.D.

ABSTRACT

BACKGROUND

A high body-mass index (BMI, the weight in kilograms divided by the square of the height in meters) is associated with increased mortality from cardiovascular disease and certain cancers, but the precise relationship between BMI and all-cause mortality remains uncertain.

METHODS

We used Cox regression to estimate hazard ratios and 95% confidence intervals for an association between BMI and all-cause mortality, adjusting for age, study, physical activity, alcohol consumption, education, and marital status in pooled data from 19 prospective studies encompassing 1.46 million white adults, 19 to 84 years of age (median, 58).

RESULTS

The median baseline BMI was 26.2. During a median follow-up period of 10 years (range, 5 to 28), 160,087 deaths were identified. Among healthy participants who never smoked, there was a J-shaped relationship between BMI and all-cause mortality. With a BMI of 22.5 to 24.9 as the reference category, hazard ratios among women were 1.47 (95 percent confidence interval [CI], 1.33 to 1.62) for a BMI of 15.0 to 18.4; 1.14 (95% CI, 1.07 to 1.22) for a BMI of 18.5 to 19.9; 1.00 (95% CI, 0.96 to 1.04) for a BMI of 20.0 to 22.4; 1.13 (95% CI, 1.09 to 1.17) for a BMI of 25.0 to 29.9; 1.44 (95% CI, 1.38 to 1.50) for a BMI of 30.0 to 34.9; 1.88 (95% CI, 1.77 to 2.00) for a BMI of 35.0 to 39.9; and 2.51 (95% CI, 2.30 to 2.73) for a BMI of 40.0 to 49.9. In general, the hazard ratios for the men were similar. Hazard ratios for a BMI below 20.0 were attenuated with longer-term follow-up.

CONCLUSIONS

In white adults, overweight and obesity (and possibly underweight) are associated with increased all-cause mortality. All-cause mortality is generally lowest with a BMI of 20.0 to 24.9.

Journal of the
AMERICAN GERIATRICS SOCIETY

The Relationship Between Weight Loss and All-Cause Mortality in Older Men and Women With and Without Diabetes Mellitus: The Rancho Bernardo Study

Nicole M. Wedick MS, Elizabeth Barrett-Connor MD, James D. Knoke PhD and Deborah L. Wingard PhD

Article first published online: 5 NOV 2002

DOI: 10.1046/j.1532-5415.2002.50509.x

Issue

Journal of the American Geriatrics Society

Volume 50, Issue 11, pages 1810–1815, November 2002

CONCLUSION: In this population of older individuals, weight loss predicted increased all-cause mortality risk not explained by covariates

PREVENÇÃO

- Categoria 1
- Considerar medidas de alteração de estilo de vida, nos indivíduos de risco elevado, especialmente na hiperglicemia intermédia
- Categoria 2
- A: Fragilidade
- Atividade física programada e adequada
- Não promover comportamentos alimentares que poderão levar a perda de peso
- B: Demência
- Alterações de estilo de vida, com o apoio dos cuidadores
- Categoria 3
- Não relevante

IDF, 2013

RASTREIO

FICHA DE AVALIAÇÃO DE RISCO DE DIABETES TIPO 2

Assinalar com uma cruz a resposta e somar o total de pontos no final.

1. Idade

0 p. Menos de 45 anos
2 p. 45-54 anos
3 p. 55-64 anos
4 p. Mais de 64 anos

2. Índice de Massa Corporal[20]

0 p. Menos de 25 kg/m2
1 p. 25-30 kg/m2
3 p. Mais de 30 kg/m2

3. Medida da cintura (normalmente ao nível do umbigo)

HOMENS	*MULHERES*
0 p. Menos de 94 cm	0 p. Menos de 80 cm
3 p. 94-102 cm	3 p. 80-88 cm
4 p. Mais de 102 cm	4 p. Mais de 88 cm

4. Pratica, diariamente, actividade física pelo menos durante 30 minutos no trabalho ou durante o tempo livre (incluindo actividades da vida diária)?

0 p. Sim
2 p. Não

5. Com que regularidade come vegetais e/ou fruta?

0 p. Todos os dias
1 p. Ás vezes

6. Toma regularmente ou já tomou alguma medicamentos para a Hipertensão Arterial?

0 p. Não
2 p. Sim

7. Alguma vez teve açúcar elevado no sangue (ex. num exame de saúde, durante um período de doença ou durante a gravidez)?

0 p. Não
5 p. Sim

8. Tem algum membro de família próxima ou outros familiares a quem foi diagnosticado diabetes (Tipo 1 ou Tipo 2)?

0 p. Não
3 p. Sim: avós, tias, tios ou primos 1° grau (excepto pais, irmãos, irmãs ou filhos)?
5 p. Sim: Pais, irmãos, irmãs ou filhos

"Finish Diabetes Risk score"

- **<11 pontos:** reavaliar 3 anos
- **12-14 pontos:** reavaliar 1 ano e corrigir fatores de risco
- **≥15 pontos:** reavaliar 60 dias: glicemia jejum (se 126 mg/dl, realizar PTGO

DGS. Processo assistencial integrado, 2013

RASTREIO

Se glicemia < 126, PTGO ?

- 80 anos
- Mulher, PA 87 cm
- Não pratica AF
- Ingere vegetais/fruta esporadicamente
- Toma anti-HT
- Nunca teve glicemia elevada
- AF diabetes (tio e primos)

➢ Total 15 pontos

- 78 anos
- Homem, PA 108 cm
- Não pratica AF
- Ingere vegetais/fruta diariamente
- Toma anti-HT
- Nunca teve glicemia elevada
- AF diabetes (avós)

➢ Total 18 pontos

RASTREIO E DIAGNÓSTICO

- Critérios de Diagnóstico

- Recomendações para rastreio
  - Categoria 1: 3/3 anos ou mais regular se alto risco
  - Categoria 2
    - A: Quando clinicamente indicado e com testes simples
    - B: Quando clinicamente indicado e com testes simples; especialmente quando prescritos antipsicóticos (ex onlazapina)
  - Categoria 3: Utilizar glicemia ao acaso, quando clinicamente indicado, especialmente quando prescritos corticóides

- Fazer sempre o rastreio, quando admitido numa instituição/lar

IDF, 2013

TRATAMENTO

- **Alimentação: INDIVIDUALIZAR**
  - A desnutrição é frequente no idoso e está associada a aumento de mortalidade, de internamentos hospitalares com maior duração, úlceras de pressão, delírio e depressão.
  - As necessidades em termos de aporte energético diminuem com a idade, mas as dos micronutrientes é semelhante.
  - A prevalência de obesidade no idoso também é elevada. O IMC pode não ser um bom indicador. Pode não ser benéfico a perda de peso.
  - Hidratação.

- **Atividade física: INDIVIDUALIZAR**
  - Benefícios na mobilidade, equilíbrio, redução risco de fratura, psico-sociais e qualidade de vida
  - Melhora outros fatores de risco cardiovascular

Aus Diab Educat, 2011; J Am Geriatric Soc 2007; Obes Res 2004; J Nutr 2006; Diabetes 2006, N Engl J Med 2011

CONTROLO GLICÉMICO

- UKPDS: diabetes recém diagnosticada, excluiu doentes > 65 anos
- ADVANCE, ACCORD e VADT: média de idade de 60 anos, diabetes de longa duração (média 8-10A), elevado risco CV

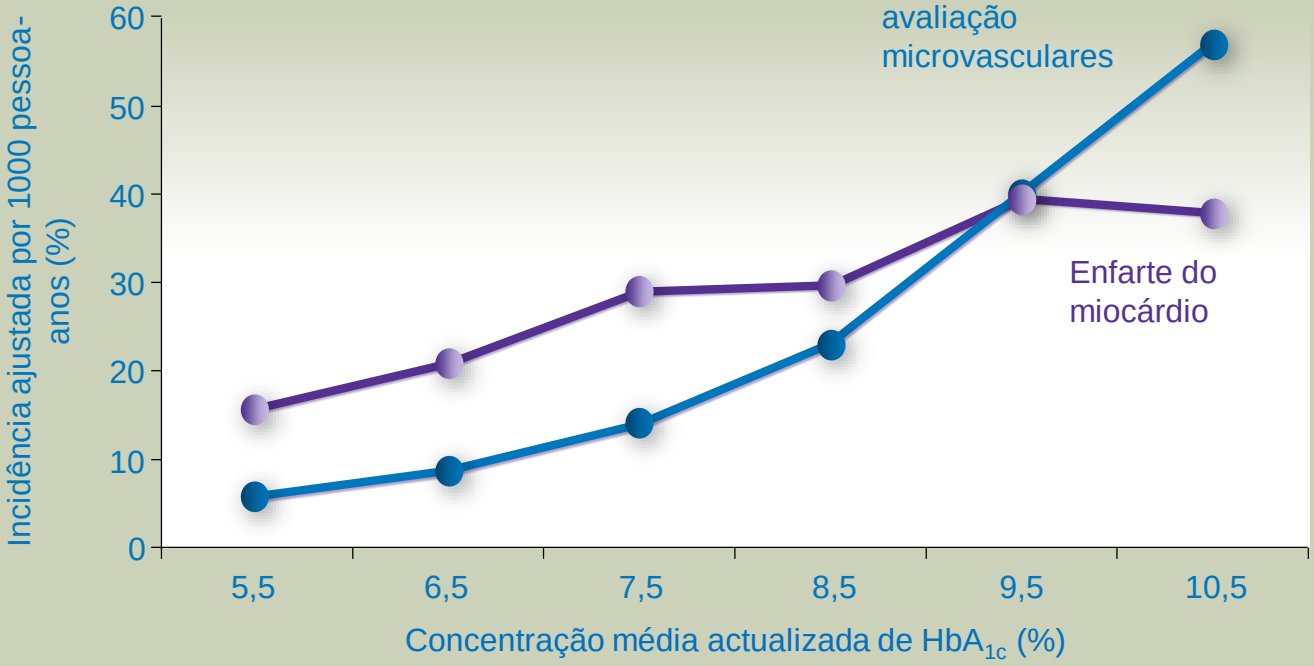
- ACCORD: > mortalidade CV no grupo sob tratamento intensivo (< 65 anos)
- ADVANCE: não mostrou diferenças nos subgrupos < ou ≥ 65[a]
- VADT: > mortalidade CV no grupo sob tratamento intensivo, com diabetes > 20 anos

… potential risks of intensive glycemic control may outweigh its benefits in other patients, such as those with a very long duration of diabetes, Known history of severe hypoglycemia, advanced atherosclerosis, and advanced age/frailty."

American Diabetes Association, American College of Cardiology Foundation, American Heart Association, 2009

Complicações da Diabetes

Aumento das complicações micro e macrovasculares em função da HbA1c na Diabetes Tipo 2: UKPDS



Redução estimada de 37% no risco microvascular por cada redução de 1% na HbA_{1c} (p<0,0001)

Redução estimada de 14% no risco de enfarte do miocárdio por cada redução de 1% na HbA_{1c} (p<0,0001)

Stratton IM, et al. BMJ. 2000;321:405-12.

Survival as a function of HbA_{1c} in people with type 2 diabetes: a retrospective cohort study

Craig J Currie, John R Peters, Aodán Tynan, Marc Evans, Robert J Heine, Oswaldo L Bracco, Tony Zagar, Chris D Poole

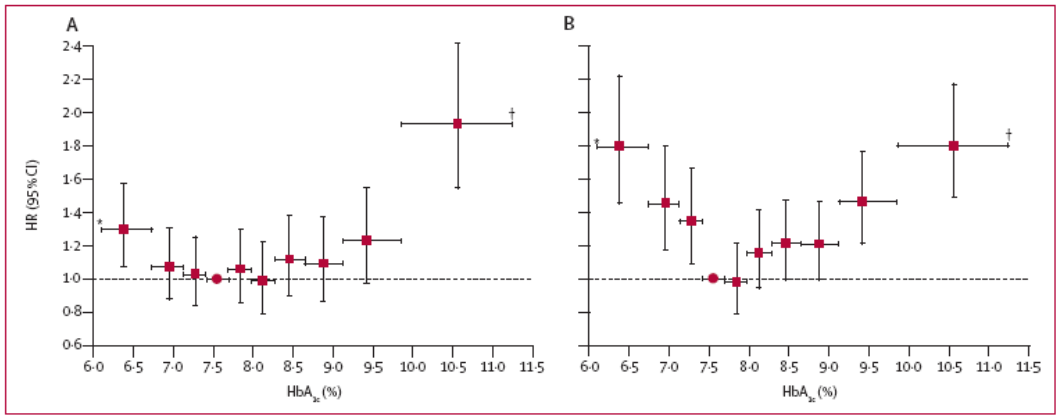


Figure 1: **Adjusted hazard ratios for all-cause mortality by HbA_{1c} deciles in people given oral combination and insulin-based therapies**
Cox proportional hazards models were used, with the HbA_{1c} base case scenario. Vertical error bars show 95% CIs, horizontal bars show HbA_{1c} range. Red circle=reference decile. * Truncated at lower quartile. †Truncated at upper quartile. Metformin plus sulphonylureas (A); and insulin-based regimens (B).

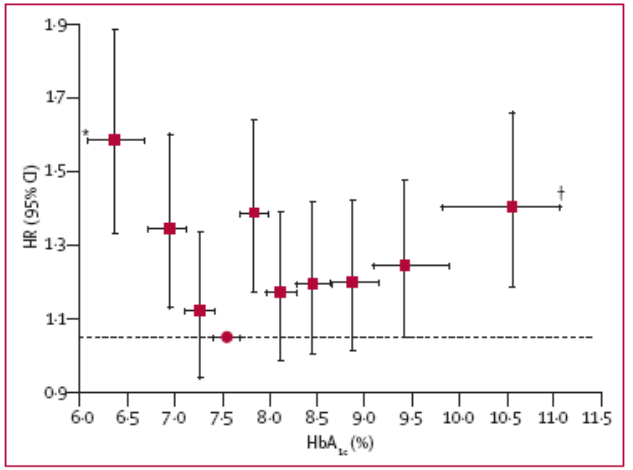


Figure 3: **Hazard ratios for progression to first large-vessel disease event by HbA_{1c} decile, with Cox proportional hazards model**
Vertical error bars show 95% CIs, horizontal bars show HbA_{1c} range. Red circle=reference decile. *Truncated at lower quartile. †Truncated at upper quartile. Model specification, for people with no previous cardiovascular disease only: age, sex, Charlson index (age unadjusted), total cholesterol, smoking status history, and cohort membership.

Interpretation Low and high mean HbA_{1c} values were associated with increased all-cause mortality and cardiac events. If confirmed, diabetes guidelines might need revision to include a minimum HbA_{1c} value.

Epidemiology/Health Services Research
ORIGINAL ARTICLE

Glycemic Control, Complications, and Death in Older Diabetic Patients

The Diabetes and Aging Study

Elbert S. Huang, md, mph[1]
Jennifer Y. Liu, mph[2]
Howard H. Moffet, mph[2]
Priya M. John, mph[1]
Andrew J. Karter, phd[2]

benefit. Further complicating this picture, the ACCORD trial found a higher rate of mortality in the intensive glucose-lowering

- >70.000 doentes
- > 60 anos
- Relação entre A1C e complicações agudas, microvasculares, CV e mortalidade

Table 3—*Age-stratified results: adjusted analyses

	Baseline A1C				
Outcome	<6.0	6.0–6.9	7.0–7.9	8.0–8.9	≥9
Mortality					
Age-group					
60–69	1	0.92 (0.79–1.07)	0.83 (0.70–0.99)	0.91 (0.74–1.11)	1.17 (0.96–1.43)
70–79	1	0.83 (0.75–0.92)	0.85 (0.75–0.96)	0.86 (0.73–1.01)	1.11 (0.93–1.32)
≥80	1	0.83 (0.74–0.93)	0.83 (0.72–0.95)	1.05 (0.86–1.27)	1.20 (0.96–1.50)
Any complication					
Age-group					
60–69	1	1.12 (1.00–1.25)	1.20 (1.07–1.35)	1.44 (1.26–1.64)	1.58 (1.38–1.81)
70–79	1	1.08 (0.98–1.19)	1.21 (1.09–1.35)	1.35 (1.19–1.53)	1.50 (1.30–1.73)
≥80	1	1.11 (0.97–1.27)	1.18 (1.02–1.38)	1.28 (1.03–1.58)	1.43 (1.12–1.83)
Any complication or death					
Age-group					
60–69	1	1.04 (0.94–1.14)	1.08 (0.98–1.20)	1.28 (1.14–1.44)	1.43 (1.27–1.60)
70–79	1	0.98 (0.91–1.06)	1.07 (0.98–1.17)	1.18 (1.06–1.31)	1.36 (1.20–1.53)
≥80	1	0.94 (0.86–1.04)	0.96 (0.85–1.07)	1.13 (0.96–1.33)	1.25 (1.04–1.51)

*Models adjusted for sex; race/ethnicity; duration of diabetes; systolic blood pressure; use of insulin, sulfonylurea, or thiazolidinedione; smoking status; glucose-monitoring adherence; GFR (chronic kidney disease stages 1–5); microalbuminuria; and proteinuria.

OBJETIVOS

- American Diabetes Association, 2014
  - Older adults who are functional, cognitively intact, and have significant life expectancy should receive diabetes care with goals similar to those developed for younger adults.
  - Glycemic goals for some older adults might reasonably be relaxed, using individual criteria, but hyperglycemia leading to symptoms or risk of acute hyperglycemic complications should be avoided in all patients.

Diabetes Care, 2014

- IDF, 2013
  - Categoria 1: HbA1C 7-7.5%
  - Categoria 2: HbA1C 7-8%
  - A e B: < 8.5%
  - Categoria 3: evitar hiperglicemia sintomática

CONSENSUS REPORT

Hypoglycemia and Diabetes: A Report of a Workgroup of the American Diabetes Association and The Endocrine Society

Risco superior

- Polimedicação
- Insuficiência renal e hepática
- Disfunção cognitiva
- Nutrição
- Percepção diferente

Consequências

- Quedas
- Deterioração cognitiva
- Urgência hospitalar
- Eventos CV
- Mortalidade

Impact of hypoglycemia on the elderly

- Educação
- Alvo
- Terapêutica

Recomendações Nacionais da SPD para o Tratamento da Hiperglicemia na Diabetes Tipo 2 – Versão Resumida

SPD National Guidelines for the Treatment of Hiperglicemia in Type 2 Diabetes – Abridged Version

Quadro V - Diabetes e idade: idosos.

DIABETES E IDADE: IDOSOS

- Neste grupo etário há aspectos específicos a considerar: Esperança de vida encurtada; Maior probabilidade e risco de hipoglicemias; Maior carga de doença cardiovascular; Função renal reduzida (diminuição da taxa de filtração glomerular); Riscos de polimedicação e interacções medicamentosas.
- O principal foco da escolha de um fármaco deve ser a sua segurança, devendo privilegiar se fármacos que minimizem os riscos de hipoglicemia.

1ª Opção:
Metformina - mas... com atenção à função renal.

2ª Opção:
Inibidores de DPP-4 - Preferenciais pois não induzem hipoglicemias.

Outras Opções:
Sulfonilureias - Risco de hipoglicemias. (A nateglinida dado o seu mais fraco potencial hipoglicemiante e curta duração pode constituir, neste caso, uma alternativa).
Pioglitazona - Risco de fraturas ósseas, insuficiência cardíaca e, eventualmente, de cancro da bexiga (mais frequentes neste grupo etário).
Insulina - Risco de hipoglicemias.

DGS desde 1899
Direção-Geral da Saúde

NORMA

da Direção-Geral da Saúde

Francisco Henrique Moura George

Digitally signed by Francisco Henrique Moura George
DN: cn=PT, o=Ministério da Saúde, ou=Direcção-Geral da Saúde, cn=Francisco Henrique Moura George
Date: 2014.01.28 13:58:37 Z

NÚMERO: 025/2011

DATA: 29/09/2011

ATUALIZAÇÃO 27/01/2014

4) A utilização de análogos de ação prolongada (lentos) de insulina é considerada uma alternativa nos casos indicados, por induzir uma modesta redução da hipoglicemia noturna, mas sem redução significativa da HbA1c [2,5,7,8,9,25] (Nível de evidência C, Grau de recomendação I):
   a) pessoas com DM2 que, após o início da terapêutica com insulina isofânica, apresentem episódios recorrentes sintomáticos de hipoglicemia;
   b) pessoas com DM2 com níveis de incapacidade que impliquem a existência de um cuidador ou de um profissional de saúde e que necessitem de, pelo menos, duas administrações diárias de insulina isofânica e para quem a mudança para os análogos de ação prolongada de insulina reduza a frequência de duas para uma injeção diária. Se a insulina detemir tiver que ser administrada duas vezes por dia, não preenche este critério.

Observational Study of Once-Daily Insulin Detemir in People with Type 2 Diabetes Aged 75 Years or Older

A Sub-Analysis of Data from the Study of Once-Daily Levemir (SOLVE)

Eddy Karnieli · Florian M. M. Baeres · Grzegorz Dzida · Qiuhe Ji · Robert Ligthelm · Stuart Ross · Anne Louise Svendsen · Jean-François Yale

Published online: 1 February 2013

Abstract

Objectives Older patients are particularly vulnerable to hypoglycaemia. The aim of this study was to evaluate the response to initiation of once-daily insulin detemir in patients aged ≥75 years with type 2 diabetes mellitus (T2DM) treated with one or more oral antidiabetic drugs (OADs).

Methods A sub-analysis was conducted using data from SOLVE (Study of Once daily LeVEmir), a 24-week observational study involving 3,219 investigators and 2,817 project sites from ten countries. Routine clinical practice was followed; there were no study-prescribed procedures. The total cohort comprised 17,374 participants, of whom 2,398 (14 %) were aged ≥75 years. The physicians collected information from patient recall, the patients' medical records and their self-monitored blood glucose diaries (if kept).

Results Pre-insulin glycated haemoglobin (HbA_{1c}) was similar between participants aged ≥75 years and those aged <75 years (HbA_{1c} 8.8 ± 1.5 % vs. 8.9 ± 1.6 % [mean ± SD], respectively). After 24 weeks of treatment, similar reductions in HbA_{1c} were observed in the two subgroups: 7.6 ± 1.1 % and 7.5 ± 1.2 % in participants aged ≥75 years and those aged <75 years, respectively. The incidence of severe hypoglycaemia (episodes per patient-year) decreased during the study in both age groups (from 0.057 to 0.007 in patients aged ≥75 years; from 0.042 to 0.005 in patients aged <75 years), while minor hypoglycaemia increased from 1.1 to 2.0 and from 1.7 to 1.8 episodes per patient-year in the older and younger age groups, respectively. Average weight reduction was similar in both groups: −0.5 kg (≥75 years) and −0.6 kg (<75 years).

Conclusion In both the older and younger age groups, the addition of once-daily insulin detemir to existing OAD regimens was effective and safe. In older patients, an improvement in HbA_{1c} of 1.2 % was not associated with an increased risk of severe hypoglycaemia or weight gain.

On behalf of the SOLVE Study Group.

Drugs Aging
DOI 10.1007/s40266-013-0069-9

ORIGINAL RESEARCH ARTICLE

Efficacy and Safety of Insulin Glargine Compared to Other Interventions in Younger and Older Adults: A Pooled Analysis of Nine Open-Label, Randomized Controlled Trials in Patients with Type 2 Diabetes

Naushira Pandya · Andres DiGenio · Ling Gao · Meenakshi Patel

Abstract

Objective Elderly patients with type 2 diabetes mellitus (T2DM) present therapeutic challenges related to co-morbidities, treatment adherence, and safety. This study examines the efficacy and safety of insulin glargine compared to other glucose-lowering interventions in younger and older adults.

Methods In this pooled analysis of 24-week data from nine prospective open-label, multicenter, phase 3/4, two-arm, parallel-group, randomized controlled trials, patients with T2DM aged 18–80 years received insulin glargine (used as a basal insulin regimen) or comparators (including rosiglitazone, pioglitazone, insulin lispro, insulin lispro 75/25, NPH insulin, NPH insulin 30/70, and lifestyle/dietary measures). Endpoints included change from baseline to week 24 in: glycated hemoglobin; fasting plasma glucose; body weight; body mass index; insulin dose; incidence of nocturnal, daytime, or any hypoglycemia. Results were stratified by age (<65, ≥65, 65–74, and ≥75 years) and treatment (insulin glargine or comparator).

Results A total of 2,938 patients were included (2,263 aged <65 years, 675 aged ≥65 years). Similar levels of glycemic control were achieved in both younger (<65 years) and older (≥65 years) patients with T2DM. Insulin glargine was associated with better glycemic control and a reduced incidence of daytime and any hypoglycemia versus comparator interventions in both younger and older T2DM patients.

Conclusion This analysis suggests that insulin glargine may represent a safe option to improve glycemic control in older patients with T2DM.

1 Introduction

Diabetes is an important health concern for the elderly population; at least 20 % of individuals aged >65 years have diabetes. As populations age, the prevalence of this disease is expected to increase rapidly over the coming years [1]. In 2004, approximately one in four US nursing home residents aged ≥65 years had diabetes, representing

SPECIAL ARTICLES

American Geriatrics Society Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults

The American Geriatrics Society 2012 Beers Criteria Update Expert Panel

Organ System or Therapeutic Category or Drug	Rationale	Recommendation	Quality of Evidence	Strength of Recommendation
Insulin, sliding scale	Higher risk of hypoglycemia without improvement in hyperglycemia management regardless of care setting	Avoid	Moderate	Strong
Megestrol	Minimal effect on weight; increases risk of thrombotic events and possibly death in older adults	Avoid	Moderate	Strong
Sulfonylureas, long duration Chlorpropamide Glyburide	Chlorpropamide: prolonged half-life in older adults; can cause prolonged hypoglycemia; causes syndrome of inappropriate antidiuretic hormone secretion. Glyburide: greater risk of severe prolonged hypoglycemia in older adults	Avoid	High	Strong

Research: Treatment
Drug treatment for diabetes in nursing home residents

Medicação	%
Fármaco	*79.4*
Análogos insulina	*51*
Análogo rápido	*15.6*
Insulina intermédia	*7.4*
Bifásicas com análogo rápido	*7.9*
Análogo lento	*34.8*
Metformina	*17.2*
SU	*14.7*
Combinação de ADO	*1.1*
Glitazona	*0.1*
Inibidores DPP-IV	*3.2*

- Os doentes sob terapêutica hipoglicemiante e os diabéticos sem terapêutica, tinham mais episódios de urgência hospitalar, quedas e fraturas.

Diabetic Medicine, May 2014

Guidelines Abstracted from the American Geriatrics Society Guidelines for Improving the Care of Older Adults with Diabetes Mellitus: 2013 Update

American Geriatrics Society Expert Panel on the Care of Older Adults with Diabetes Mellitus

- **Aspirina**
  - Prevenção secundária: 75 mg/d
  - Prevenção primária: não está indicada
  - Ponderar se > 80 anos
- **HTA**
  - Alvo: < 140/90 mmHg
  - Vigiar função renal e K em 1-2 semanas se IECA, ARA ou diuréticos ansa ou tiazídicos
- **Dislipidémia**
  - Não existem estudos com estatinas em doentes > 80 anos
  - Individualizar alvo
- **Retinopatia**
  - Diabetes com início no idoso: avaliação ao diagnóstico
  - Risco elevado: avaliação anual
  - Baixo risco: avaliação 2-3 anos
- **Pé diabético**
  - Avaliação anual; se alto risco, mais frequente
- **Nefropatia**
  - Avaliar albuminúria ao diagnóstico: avaliação anual– consoante esperança de vida

EVIDÊNCIA?

Diabetologia (2013) 56:1226–1235
DOI 10.1007/s00125-013-2890-4

ARTICLE

Are current clinical trials in diabetes addressing important issues in diabetes care?

W. C. Lakey · K. Barnard · B. C. Batch · K. Chiswell · A. Tasneem · J. B. Green

Age, *n*/*N* (%)	
Maximum age ≤18 years	92/2,484 (3.7)
Minimum age ≥18 years	2,225/2,484 (89.6)
Excludes ages >65 years	764/2,484 (30.8)
Excludes ages >75 years	1,364/2,484 (54.9)
Minimum age ≥65 years	15/2,484 (0.6)
Minimum age ≥75 years	1/2,484 (0.0)

Primary purpose, *n*/*N* (%)	
Treatment	1,740/2,327 (74.8)
Prevention	233/2,327 (10.0)
Diagnostic	54/2,327 (2.3)
Supportive care	62/2,327 (2.7)
Screening	5/2,327 (0.2)
Health services research	66/2,327 (2.8)
Basic science	167/2,327 (7.2)

“INDIVIDUALIZAR”

"INDIVIDUALIZAR"

- Comorbilidades
- Disfunção cognitiva: D. Alzheimer e demência 2x mais frequente; relação com hipoglicemia
- Limitação funcional
- Quedas e fraturas
- Polimedicação
- Depressão
- Acuidade visual e auditiva
- Estado nutricional
- Vulnerabilidade para hipoglicemias
- Risco de hiperglicemias
- Esperança de vida
- Autonomia/cuidadores

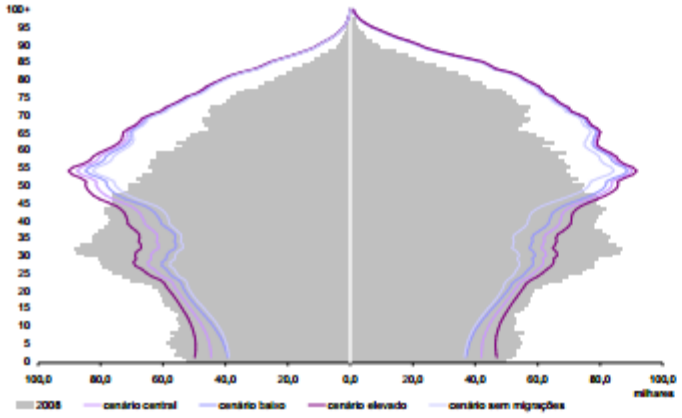
Diabetes in older adults: a consensus report, 2012

FUTURO

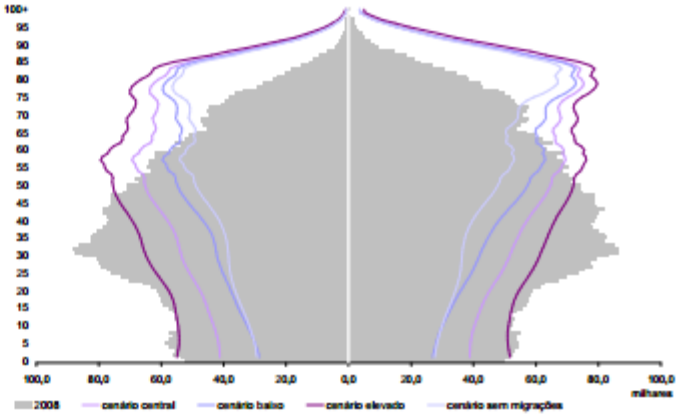
- Prevenção
- Ensaios clínicos que envolvam idosos
- Estudos que considerem função cognitiva, estado funcional, qualidade de vida, doentes institucionalizados
- Estudos com outros *outcomes*: hospitalizações, alterações da função cognitiva, quedas, etc

Nos próximos 50 anos, Portugal poderá continuar com cerca de 10 milhões de residentes, mas manter-se-á a tendência de envelhecimento demográfico, projectando-se que em 2060 residam no território nacional cerca de 3 idosos por cada jovem.

Pirâmide etária da população, 1 de Janeiro de 2008 e 2030



Pirâmide etária da população, 1 de Janeiro de 2008 e 2060



INE, 2009